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ABSTRACT

Discussing findings from three studies, this report focuses on questions mothers ask their children while looking at picture books and recent family photographs. In the first study, 30 mothers and their 12-, 15-, and 18-month-old children "read" a simple ABC book that had one picture for each letter in the alphabet. In the second study, 15 pairs of 18- to 38-month-old children and their mothers talked about a complex farm scene from a children's book. Findings of both studies indicate that memory demands made by mothers differed as a function of their child's age. Starting when their children were around 15 months of age, mothers began to demand responses involving recall and recognition memory. They also reduced demands if their child gave no response to questioning. Generally, mothers challenged the child and helped him or her to respond correctly. It was also found that almost every mother of a child 18 months old or younger at least once related something in a picture to some general aspect of the child's past experience. To examine how mothers would question young children about their memory for particular events in contrast to general experience, the third study involved observations of mothers and their 24- to 36-month-old children while they looked at family photograph albums. Findings revealed a very low frequency of specific memory questioning by the mothers. Children frequently were asked to describe, but not to recall. In all three studies, mothers showed a strong bias toward asking their children to report general knowledge rather than to recount specific events from personal past experience. (Implications of the findings are discussed.) (RH)

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WHAT'S THIS?

MATERNAL QUESTIONS IN JOINT PICTURE BOOK READING WITH TODDLERS[1]

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WHAT'S THIS?

MATERNAL QUESTIONS IN JOINT PICTURE BOOK READING WITH TODDLERS

There are many claims made in the popular press (e.g., Trelease, 1982) regarding the beneficial effects of parents' reading aloud to their young children, and the professional literature reveals similar views. Researchers have seen joint picture book reading as a means of developing concepts and familiarity with literacy (Teale, 1982), as well as a mechanism for aquiring vocabulary (Ninio, 1983) and other linguistic skills (Snow & Goldfield, in press).

Our research on mothers reading picture books with their infants and toddlers is inspired by the recent emphasis in the developmental literature on the social origins of cognitive skills (Bruner, 1977; Wertsch, 1979; Wertsch, McNamee, McLane, & Budwig, 1980; Wood, Bruner, & Ross, 1976). (Reading" is somewhat of a misnomer, since there is often little or no text in the books for infants and toddlers, and parents often ignore what text there is.) We think of picture book reading as a joint cognitive endeavor in which either partner can spontaneously volunteer information, request information from the other, or respond to the other's request for information. We are interested in the structure underlying mother-child reading interactions and differences in that structure as a function of the age and linguistic ability of the child, a topic that has recently attracted the attention of other researchers as well (Ninio, 1980, 1983; Ninio & Bruner, 1978; Snow & Goldfield, in press).

In the present paper we focus on the questions that mothers ask their children during joint picture book reading. Posing questions about the

pictured materials is a prominent part of most mothers' behavior in this situation. This questioning generally involves memory demands - the child is asked to recall or recognize information related to the pictures in the book; and it seemed to us that this early mnemonic experience might be important in the development of memory in young children. In our analysis of maternal questions, we have been especially concerned with the mother's adjustment of the type and level of her memory demands to the age of her child.

We have conducted two studies of joint picture book reading. In the first (DeMendoza, 1983), 30 mothers and their 12-, 15-, and 18-month-olds "read" a simple ABC book that had one picture corresponding to each letter of the alaphabet. In the second reading study, 15 pairs of 18- to 38-month-old children and their mothers talked about a complex farm scene from a popular children's book by Scarry (1963). The subjects were all white and middle-class although a wide range of family income and educational background were represented within that SES level.

We found that the frequency and type of questions asked, that is, the memory demands made by mothers in the reading interactions differed as a function of the age of their children. With the youngest children (12-month-olds), there were few questions; almost no memory demands of any sort were made. The mother tended to be the only active participant in the interaction, and her role was primarily limited to simply labelling the pictures as she pointed to them. The following segment from the protocol of a mother of a 12-month-old[2] includes everything the mother said about three successive pictures.

M(12): Look at the apple. Apple.
" Teddy bear.
" And Kitty.

Occasionally, the mother provided some addicional information about the pictures, although this was most often limited to imitating the sound made by an animal or object. ("Frog. He goes 'ribbit, ribbit.'")

With older children, the mothers increasingly often sought information from the child, rather than simply providing the information for him or her. However, the mothers of the younger children in our sample (12- and especially 15-month-olds) frequently used a question format ("What's this?") without really seeming to expect a response from the child. In the clearest examples, the mother named an object herself and merely asked the child to confirm her label.

M(12): And that's a kite.
" Is that a kite, Josh?

M(12): Isn't that a froggie?

(M12): Oh! Is that an elephant?

The most that these confirmatory questions could require from the child would be to recognize and acknowledge the appropriateness of the mother's label. In practice, however, the questions appeared to be rhetorical; the mother did not really expect the child to confirm the correctness of the information. Although the mother's utterance had the form of a question, it appeared to function simply as a labelling statement.

In a similar vein, mothers of the younger children often asked for the label of an object (What's this?") or other information, but then immediately, or with only a brief pause, when ahead and provided the requested information themselves. In the following examples, the mother's answer followed close on the heels of her own question.

M(12): That's a doggie.
" What does a doggie say?
" Arf, arf, arf, arf.

M(15): Do you know what that is?
" Elephant.

In other words, mothers of younger children frequently adopted a questioning format, but assumed both roles themselves (questioner and respondent) and did not really require or even expect the child to take an active (verbal) part. The mother's assumption of both roles in a dialogue with a very young child has often been reported in the mother-infant interaction literature (see, for example, Stern, 1977), as well as in picture book reading interactions (Ninio & Bruner, 1978). As a consequence of the mother's playing both parts, the child receives substantial experience with the question-answer cycle before he is required to contribute anything other than attention to the cycle.

Starting around 15 months, the children we observed were expected to take an increasingly active role in the reading dialogue. The mothers started making clear memory demands, both for recall and recognition memory; and these demands increased both in frequency and complexity as a function of the child's age. In the earliest recall demands, the mother pointed to a pictured object, requesting that the child label it.

M(15): What's this?
C: Bah.
M: Ball.

M(18): You know what this is?
C: Kite.
M: A kite. Yeah.

Thus, the child was asked to retrieve from his memory the name that applied to a single, visible, clearly demarcated object.

The mothers often skipped pictures in the alphabet book. The decision between skipping or including a picture, as well as the decision between labelling a pictured object herself or asking her child to label it, seemed to be based on the mother's beliefs about her child's knowledge. For all

ages in the alphabet book study, if a mother thought her child could say the name of an object (i.e., if she reported that her child spontaneously produced the word), she usually asked the child to give its label. For words that the mother reported the child did not know, she was more likely to provide the label herself. The mother was much more likely to skip pictures that she thought were unfamiliar to her child than pictures the child knew something about.

One could characterize the mother as acting in a way that maximizes her child's contributions to the interaction. The mother tracks the development of the child's vocabulary, and whenever there is a good chance that the child can respond at a higher level (verbally), the mother gives him or her the opportunity to do so. The mothers adjust to their children's current level of competence in many other ways that are not tied to simple vocabulary growth.

Evidence of maternal adjustment to the child's level comes from the fact that increasingly more was demanded of older children. For example, rather than simply asking for recall of the names of simple single pictured objects, the mothers of older children stepped up their demands by asking for indirectly specified information; that is, they asked for information that was related to the pictured objects but that was not actually in the picture.

M(29): What do bees make?
C: Honey.
M: Good.

M(30): Where does the baby bee live?
C: (unintelligible)
M: Lives in a bee hive.

Older children were also sometimes asked to draw inferences based on the picture.

M(27): That's a horsie.
" And look what he's going to eat.
C: Apple.
M: Apple.

With recognition memory, the mothers' demands varied as a function of both the child's age and the difficulty of the required response. Sometimes, instead of pointing to an object and telling the child its name, the mother gave the name of an object and asked the child to point to it. ("Where's the kitty?" "Show me the duck.") In this case, the memory requirement for the child was simply to recognize the picture that matched his mother's label. In the study that used a very simple ABC book with only four spatially separated pictures of single objects visible at a time, even 15-month-old children were asked to point. ("Show momma the doggie.") In the other reading study, however, in which an elaborate farm scene was the stimulus material, pointing requests occurred quite infrequently for any but the oldest subjects (3-year-olds). ("Do you see a sheep anywhere?") Thus, whether the mother asked for a point response depended not only on the child's age, but also on the difficulty of isolating the named object.

One mother converted the request for pointing into a relatively complex mnemonic exercise. She repeatedly asked her 38-month-old child to point to objects, but the objects were only indirectly specified. For example, rather than saying, "Show me the barn," this mother said, "Show me where the horses sleep at night." She also asked a series of questions that were of the form, "Can you find an animal that says ['oink, oink'] ['moo']?"

Thus, this mother provided a retrieval cue--a characteristic of an object--which the child could use to retrieve the name of that object. The child then had to search the picture to identify the corresponding object.

It is tempting to see this example as a method of adjusting to an older child for whom the picture book was relatively simple. This child was well beyond the level where he had any difficulty labelling or pointing to the objects in the picture, so the mother may have adopted this format to make the reading session a little more challenging for him. This would then represent an example of "upping the ante" (Bruner, 1977; Wertsch, 1979), continually increasing the level of performance asked of the child.

Several examples of mothers' making the opposite sort of adjustment--reducing the demands made on a child--were also observed. If her child was not forthcoming with some information she has requested, some mothers gave clues.

M(13): What do bees make?
C: Bee, bee, bee, bee, bee . . .
M: What do bees make?
" What does Winnie the Pooh eat?
C: Honey.
M: Yeah. Look at these beehives where the honey is made by the bee.

In this example, the mother seems to be motivated to do two things at once: to avoid providing the response to her own question (something the mothers of younger, less participative children were not at all reluctant to do) and to get the child to give the correct response. Another idiosyncratic technique that a few mothers employed to extract a correct response was to tease the child, primarily by mislabelling pictured objects.

C(31): What's that? (Pointing to a horse in the pictured farm scene.)
M: You know what kind of animal that is.
" What is that?
" That's a bird, that's a bird.
C: That's a horse.
M: That's a bird
C: That's a horse.
M: No, that's a bird. Hi, bird. Hi, bird.
C: That's a horse.
M: You sure?
C: Yeah.
M: You're sure?
C: Yes, that's a horse.
M: You're right. I was kidding you. Putting you in the trick bag.

The mother seems to want and expect the child to contradict her inappropriate label, with the mislabelling designed to draw from the child the information she believes he knows.

The mothers we have observed thus seem to be trying to balance two different goals--to challenge the child and to help him or her respond correctly. The mother wants the child to participate at the highest level at which he or she is capable, so she continually increases the level of her demands. At the same time, she wants her child to perform successfully. We can think of the mother's behavior in the picture book reading interaction as an attempt to situate the interaction within what Vygotsky (1978) refers to as the child's zone of proximal development (Wertsch, 1979). She presents some of the material at a level that exceeds the child's capacity to respond, and then she provides various forms of support to help the child arrive at the correct response.

Another example of a technique that the mothers often used to assist their children was to relate the pictured material to the child's personal experience, explicity drawing a connection between the child's own memory and the pictures in the book.

M(12): Frog.
You have a frog, a stuffed one.

M(15): Look at the house.
" We live in a big house, don't we?

M(15): ...Indian.
" Is that Chief Illiniwek?
" Huh? Is that like Chief Illiniwek?
(The University of Illinois mascot.)

M(18): Look at the little mouse.
" Just like what Daddy works with.

Examination of these personal references revealed two main points. First, this technique seemed to be employed more often by mothers of younger children. Almost every one of the mothers of children who were 18 months or younger at least once related something in a picture to the child's past experience (as opposed to half of the older children's mothers). Most of these references were quite brief (as in the examples above), although a few were extensive. Second, the great majority of these personal references were to general aspects of the child's experience, rather than to specific events. Mothers tended to comment that a pictured object was similar to something the child owned, something the child did or didn't like, or some activity the child habitually engaged in. Only a small proportion referred to a specific event that the child had experienced and might be expected to remember. The following references to particular events were atypical.

M(18): Mmm. You had some jelly this morning.

M(22): What happens with the bee?
" Does the bee sometimes sting you like it stung Daddy?
C: Yeah.

M(29): Do you remember, Robbie, when the farmer was plowing the field behind our house?
" Do you remember that farmer on the big tractor?
C: Uh-huh. Cutting down.

M: What did he cut down on his field?
" What did the farmer grow?
" Do you remember?
C: No.
M: He grew corn, remember?
" Big corn stalks.
C: Uh-huh.
M: Remember that?

We were intrigued by the mothers' strong bias toward relating the picture book content to enduring or repetitive rather than specific experience. Because we wanted to examine how mothers would question young children about their memory for particular events, we have recently been observing pairs of mothers and their 24- to 36-month-old children looking at family photograph albums at home together, (only pictures taken within the last six months), an activity that most of the mothers reported engaging in two or more times per month. Here, a large proportion of the pictures have to do with the child's own personal experience; indeed, the child is the main focus of many of the photographs. We expected that the mothers would do much more prompting of their children to recall and reminisce about specific events.

The results we have to date (on 16 pairs) are not what we had expected. The most striking result, and the first thing that surprised us, was the very low frequency of specific memory questioning by the mothers. Although the mothers asked a great many questions about the pictures, the preponderance of their questions were couched in the present tense; they rarely said, "Do you remember . . .?" For over three-fourths of the pictures, the mother asked the child to describe, but not to recall, the content of the pictures: she asked the child to name the people present ("Who's that?"), to tell where they were located ("Whose house is that?"), or to describe what was happening.

(Looking at a photo of the child on his mother's lap, drinking from a bottle.)

M(24): What's this picture show?
C: Tristan.
M: Doing what?
C: Tristan.
M: Snuggling with mommy? Hmm?
C: What's at?
M: But what is Tristan holding?
C: Holding a baba [bottle].
M: Yeah.

The questions thus required recognition and interpretation by the child, but in only a minority of the cases was the child asked to recall a particular pictured event. One especially revealing example in this regard is the following:

(Looking at a photo of child, who has just taken a drink of tonic water meant for her father)

M(24): ...You're drinking that nasty stuff in the bottle, huh.
C: Baby.
M: Did you like it.
" Do you like that drink of Daddy's?
" Doesn't look like it.
" No. But that was funny.

Here, the mother began by asking her child about a unique event in the past tense but then changed to the present tense, thus switching from asking the child to remember the event to asking her to infer her reaction to the event from her facial expression shown in the picture. In her concluding comment, the mother switched back to the past tense.

These data suggest that mothers of 2- to 3-year-old children did not expect them to be able to report specific events, but only general knowledge. This was true even in the context of looking at photographs, which one would expect to be maximally effective cues for retrieval of stored experiences.

When we looked further at the instances of recall demands that did occur, we found that when the mother of a young child did ask the child to

recall an experience, that event was almost always a unique or unusual one.

(Looking at a vacation photo of mother and child in front of the Statue of Liberty.)

M(30): What's this?...
" The Statue of Liberty.
" Did you, did we go and see her?
C: Mm Hmm.
M: Remember we went on the boat?
C: Yeah.
M: We were on the boat right now in that picture--we were riding on the boat.
C: Oh.
M: Who took our picture?
C: What? Daddy?
M: Right.
" Did you like the boat ride?
C: Yes.
M: We walked all around the Statue.
C: Mm Hmm.
M: And we climbed up the steps.
C: Yeah.

Most of the examples of recall demands have involved non-recurring, distinctive events--holidays, vacations, or visits--and pictures containing information that clearly separates that event from the child's everyday experience (e.g., different clothes or costumes, decorations, atypical setting, etc.). It should be emphasized that even pictures of highly unusual events were most often discussed, or described, in the present tense.

In both of the reading studies, which used common books produced for young children, and in the family photo study, mothers of young children showed a strong bias to ask their children to report general knowledge rather than to recount specific events from personal past experience. These data parallel those of Nelson and her colleagues (Nelson, 1983; Nelson & Ross, 1980), who have found that young children provide coherent recall of general or scripted information earlier than they produce integrated accounts of specific past experiences. The mothers we have observed tend to ask their

children for just the type of recall Nelson has shown they are capable of giving.

What role might these maternal memory demands play in the child's development? For one thing, the child receives practice in the retrieval of information on demand, and this practice takes place with maximal environmental and social support. In terms of environmental support, the presence of the picture or photograph virtually eliminates any ambiguity regarding the referent of the mother's comments or questions. In terms of social support, the child's mnemonic activities take place in the context of a warm, pleasurable interaction, and the mother structures the situation to elicit the best the child has to offer. However, some of the mother's demands are aimed above the child's current level: At every age, the mothers ask for some information that the child is probably incapable of supplying. When the mother does so, and her child fails to respond, she almost always supplies the response that she has requested or provides some assistance to help the child respond. Thus, the child is provided with a model of the response that he or she is currently incapable of producing alone or is given subtle guidance to produce it.

We have characterized the mothers that we observed as adapting their questions to their perception of their child's knowledge--talking most about familiar things, asking the child for any labels he or she can say, increasing their demands as the child's competence grows, aiming their questions to the child's zone of proximal development and providing the necessary assistance to help the child respond correctly. To what extent would the mothers we have described in this way recognize this interpretation of their behavior? DeMendoza (1983) interviewed the mothers of the 12- to 18-month-olds in

her study. She asked the mothers, among other things, why they talked about some pictures and ignored others, what they thought their child learned from picture book reading and what, if any, long-term benefits they foresaw from this activity.

The mothers' responses indicated awareness of many of the aspects of their behavior that we have commented on. Almost all of them expressed an intentional bias toward talking primarily about pictures that were familiar to the child or that made contact with the child's current knowledge.

> M(18): In this book I know there are things that she knows, or is beginning to know, so I concentrated on those and skipped some of the other things. If there was something that I thought she had no idea about I kind of skipped over it and moved on to something I thought she might be familiar with.
>
> M(12): [I choose pictures] if I can point out something about the picture or make a sound or relate it to her--like the animals make sounds, or the house is where she lives with mommy and daddy.
>
> M(15): I know there were a couple of things that I just never talk to him about... I can give you an example--like queen. He's not to the age of reading stories about queens, so how do I even talk about a queen? I might say the lady; but right now even that's too much for him.

Several mothers indicated that words that their child said had a special status in determining which pictures they focused on, although not every mother who mentioned this influence on her selectivity seemed aware that it led her to ask the child to label the picture.

> M(12): There are certain words that she knows, that I've heard her say, so I try to get her to say them. That's how I choose some of the pictures.
>
> M(15): I talk first about the things I know she knows, and especially the things she can say. Like she says 'quack, quack' for duck, so I talk about the duck, and she can say 'kitty.' So the things

she can say I do first, or I make sure I mention those.

A few mothers talked about consciously increasing the level of the interactions as a function of the child's growing knowledge.

M(18): I skipped some of the things because he doesn't know what they are yet. Then, as he learns more, I go on to something else, something that he can relate to. He doesn't really know what a kite is but he knows his brothers go to fly a kite, so I feel I can talk to him about that. He still might not know what the kite is but he relates it to something that his brothers do. At least that's how I feel I'm teaching him. I don't know what he really thinks in his mind.

M(15): After we've gone through [the pictures] a few times, so she knows what the things are, then I'll ask her to point them out to me.

Thus, most of the mothers knew that they were selective in their input and demands from the child. But what leads them to this selectivity, to this matching the child's current level? Is the behavior of these mothers guided by an intuition of sound educational practice, by an implicit understanding of the zone of proximal development? All of the mothers indicated that they expected their child to learn something from the picture book interactions (with the most frequently mentioned products being increased vocabulary, expanded concepts, and a lasting love of books and reading). Should the mothers therefore be viewed as sensitive teachers striving to attain educational goals?

I think that most mothers do in fact see themselves as teaching their children by reading books to them (although the reading also serves other goals, such as providing a quiet time for the child and a sense of closeness). However, it is not clear that the teaching function governs their immediate behavior, that it is responsible for the ways that they adapt their input

to the child's level. I suspect that these modifications take place in the service of an immediate goal of communicating effectively with the child (Newport, Gleitman, & Gleitman, 1977), of getting and maintaining the child's attention. Since picture book reading sessions are most often terminated by the child's losing interest, a major part of the mother's role is trying to keep the interaction going. A few mothers explicitly gave this rationale for why they generally talked about pictures the child was already familiar with.

> M(18): He'll look at [a picture], and if he doesn't know what it is, he's not interested. So I try to call his attention to things that go with something he already knows, or that he knows something about.
>
> M(12): I think I was probably pointing at things she already knew. ...I was probably geared toward trying to capture her attention with things she knows.

I am suggesting, then, that the middle class mothers we observed do view joint picture book reading as an important educational experience, but that the specific techniques they employ in the process of the ongoing interaction are primarily dictated by the necessity of communicating with a limited partner, a partner who is not capable of playing a fully complementary role in the dialogue. Since a successful reading interaction requires sustained attention on the part of the child, the mothers do what they believe will capture and hold the child's interest, including talking about familiar things, presenting a limited amount of new information and relating it to the child's experience, assisting the child to respond correctly. It is a happy coincidence that the very techniques that are adaptive in the short-run to attract and keep the child's attention also happen to be especially effective teaching tools.

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FOOTNOTES

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[2]The number in parentheses with each quotation indicates the age of the child involved.